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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/752,563

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Takahiro Saito

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06/15/2004

Beveridge, DeGrandi, Weilacher & Young
Suite 800
1850 M Street, N.W.
Washington, DC 20036

EXAMINER

GOODMAN, CHARLES

ART UNIT

PAPER NUMBER

3724

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CS

Office Action Summary

Application No.

09/752,563

Applicant(s)

SAITO, TAKAHIRO

Examiner

Charles Goodman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on December 24, 2002 has been entered.
2. Receipt is acknowledged of the drawing correction filed on December 24, 2002, Paper No. 4. It has been approved.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al and Turner in view of Piper.

Freund et al and Turner discloses the invention substantially as claimed except for plural mounting position indications on the tape. Note the last Office Action, Paper No. 3, for the steps anticipated by Freund et al and Turner. However, Piper teaches a chuck (10) comprising a mounting surface (12) having a plurality of position indications (e.g. 20) which assists in aligning the wafer (14) on the chuck for subsequent dicing of the wafer. Figs. 1-2, c. 5, l. 33 - c. 6, l. 24. Although the teachings of Piper does not teach the mounting surface being tape, the fact that the vacuum table mounting surface in the chuck of Piper serves the same purpose as that of the tape mounting surface in the chuck of Freund et al and Turner - namely for secure mounting of the wafer - appears to suggest that the position indications as taught and suggested by Piper would be advantageously applicable to tape, since that would assist the operator in more accurate pre-alignment of the wafer for subsequent dicing. Thus, it would have been obvious to the ordinary artisan at the time of the instant invention to provide the method of Freund

et al and Turner with the plural mounting position indications on the tape as suggested by Piper in order to assist alignment of the plural substrates on the frame.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al and Turner in view of Nishida.

Freund et al and Turner discloses the invention substantially as claimed except for a whole-surface imaging means. Note the last Office Action, Paper No. 3, for the steps anticipated by Freund et al and Turner. However, Nishida teaches a whole-surface imaging means (3) for the purpose of assisting accurate alignment of the substrate (100) by the imaging means (e.g. 18) by providing a shape comparison for specifying the cut lines. See whole patent. Thus, it would have been obvious to the ordinary artisan at the time of the instant invention to provide the method of Freund et al and Turner with the whole-surface imaging means as taught by Nishida in order to assist accurate alignment of the substrates for the subsequent cutting.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freund et al and Turner in view of Oglesbee.

Freund et al and Turner discloses the invention substantially as claimed except for a pick-up means. Note the last Office Action, Paper No. 3, for the steps anticipated by Freund et al and Turner. However, it is old and well known in the substrate cutting art to provide a pick-up means to automatically pick up the individual CSPs cut from the cutting station to thereby transfer the same for further processing. In that regard, Oglesbee teaches the method step of using a pick-up means (35) to pick up individual CSPs and to transfer the same for inherent further processing. Fig. 7, c. 3, ll. 56-65. Thus, it would have been obvious to the ordinary artisan at the time of the instant

invention to provide the method of Freund et al and Turner with the pick-up means as taught by Oglesbee in order to facilitate further processing of the cut CSPs.

Response to Arguments

7. Applicant's arguments, see Amendment A, Paper No 6, filed December 24, 2002, with respect to the rejection of claims 3 and 7 under Freund et al and Turner in view of Yoshii et al '990 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Piper (claim 3) and Oglesbee (claim 7).

Applicant's arguments with respect to disqualification of Yoshii et al '990 and Ishiwata et al under 35 USC § 103(c) are persuasive to the extent that these references were commonly owned by the same assignee, Disco Corporation, and the Applicant has provided positive statement to that effect. Note Amendment A, p, 5, ll. 9-17.

In response to Applicant's basic argument that claim 4 is non-obvious over Freund et al and Turner in view of Nishida,¹ this argument is traversed. Applicant's arguments is couched in traversal of the teachings of Nishida alone which is a piecemeal analysis of the rejection. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In that regard, Freund et al, at the very least, already teaches the plurality of CSP substrates mounted on a single chuck. Therefore, whether or not Nishida teaches imaging plurality of CSP substrates as

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claimed is not germane to this issue alone. Due to the fact that Freund et al (or Freund et al and Turner) lacks a whole-surface imaging means, Freund et al (or Freund et al and Turner) modified by the teachings of Nishida for whole-surface imaging means would result in all of the CSPs in Freund et al (or Freund et al and Turner) being imaged since the imaged area encompassed by the teachings of Nishida is more than sufficient to cover the area that would be defined by the plurality of CSP substrates in Freund et al on a single chuck. In other words, although Nishida's teachings are not specific to plurality of substrates, Nishida's teachings provides a more holistic analysis of the substrate for alignment purposes, e.g. as in for initial computerized alignment, and as a consequence, one of ordinary skill in the art would have found it obvious to apply the teachings of Nishida to the teachings of Freund et al (or Freund et al and Turner) since that would provide staged degrees of increased accurate alignment for the dicing operation, e.g. shape comparison then street comparison.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Goodman whose telephone number is (703) 308-0501. The examiner can normally be reached on Monday-Thursday between 7:30 AM to 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap, can be reached on (703) 308-1082.


¹ Amendment A, p. 3, l. 17 - p. 4, l. 22.


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In lieu of mailing, it is encouraged that all formal responses be faxed to (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-1148.

cg 
June 10, 2004


Charles Goodman
Primary Examiner
AU 3724

CHARLES GOODMAN
PRIMARY EXAMINER